

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: OTTER POND	Lake Area (ha): 74.87
Town: SUNAPEE	Maximum depth (m): 7.6
County: Sullivan	Mean depth (m): 4.0
River Basin: Connecticut	Volume (m <sup>3</sup> ): 3000500
Latitude: 43°26'00" N	Relative depth: 0.8
Longitude: 72°03'30" W	Shore configuration: 1.56
Elevation (ft): 1125	Areal water load (m/yr): 30.51
Shore length (m): 4800	Flushing rate (yr <sup>-1</sup> ): 7.60
Watershed area (ha): 4491.2	P retention coeff.: 0.43
% watershed ponded: 6.6	Lake type: natural w/dam

BIOLOGICAL:

2 January 1992

10 July 1991

DOM. PHYTOPLANKTON (% TOTAL)	#1	ASTERIONELLA 99%	DINOBRYON 70%
	#2		COELOSPHAERIUM 10%
	#3		ASTERIONELLA 10%
PHYTOPLANKTON ABUNDANCE (cells/mL)			
CHLOROPHYLL-A (µg/L)			4.91
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA 56%	NAUPLIUS LARVAE 33%
	#2	CODONELLA 21%	KERATELLA 31%
	#3		KELLICOTTIA 14%
ROTIFERS/LITER		48	68
MICROCRUSTACEA/LITER		7	39
ZOOPLANKTON ABUNDANCE (#/L)		68	107
VASCULAR PLANT ABUNDANCE			Common
SECCHI DISK TRANSPARENCY (m)			3.2
BOTTOM DISSOLVED OXYGEN (mg/L)		14.5	0.0
BACTERIA (fecal col., #/100 ml)	#1		1
	#2		< 1
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 6.7  
Hypolimnion volume (m<sup>3</sup>): None  
Anoxic volume (m<sup>3</sup>): 23000

**CHEMICAL:**

Lake: OTTER POND

Town: SUNAPEE

	2 January 1992		10 July 1991		
DEPTH (m)	2.5	5.0	2.0	5.0	7.0
pH (units)	6.2	6.1	7.0	7.0	6.4
A.N.C. (Alkalinity)	4.6	5.0	4.3	5.3	5.6
NITRATE NITROGEN	< 0.02	0.03	0.78		< 0.05
TOTAL KJELDAHL NITROGEN					
TOTAL PHOSPHORUS	0.003	0.005	0.007	0.007	0.009
CONDUCTIVITY ( $\mu$ mhos/cm)	86.2	89.9	89.8	88.1	90.1
APPARENT COLOR (cpu)	14	18	12	13	17
MAGNESIUM			0.64		
CALCIUM			3.6		
SODIUM			11.4		
POTASSIUM			0.95		
CHLORIDE	17	17	19		18
SULFATE	6	6	5		5
TN : TP					
CALCITE SATURATION INDEX			3.1		

All results in mg/L unless indicated otherwise

**TROPHIC CLASSIFICATION: 1991**

D.O. S.D. PLANT CHL TOTAL CLASS

**	2	3	1	6	Meso.
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**COMMENTS:**

1. This pond was previously surveyed and classified in 1979. The pond went from oligotrophic in 1979 to mesotrophic in 1991. The major reasons for the change were a doubling of the chlorophyll (although it's still less than 5 mg/m<sup>3</sup>) and a decrease in water clarity from about 16½ feet to 10½ feet.
2. The water quality trends in this pond are being monitored more closely in DES' Volunteer Lake Assessment Program.
3. Boat was launched at a beach; not a public access.
4. No wholewater plankton results are available.

# Otter Pond

## Sunapee

N



10

20

X  
25'

20

10

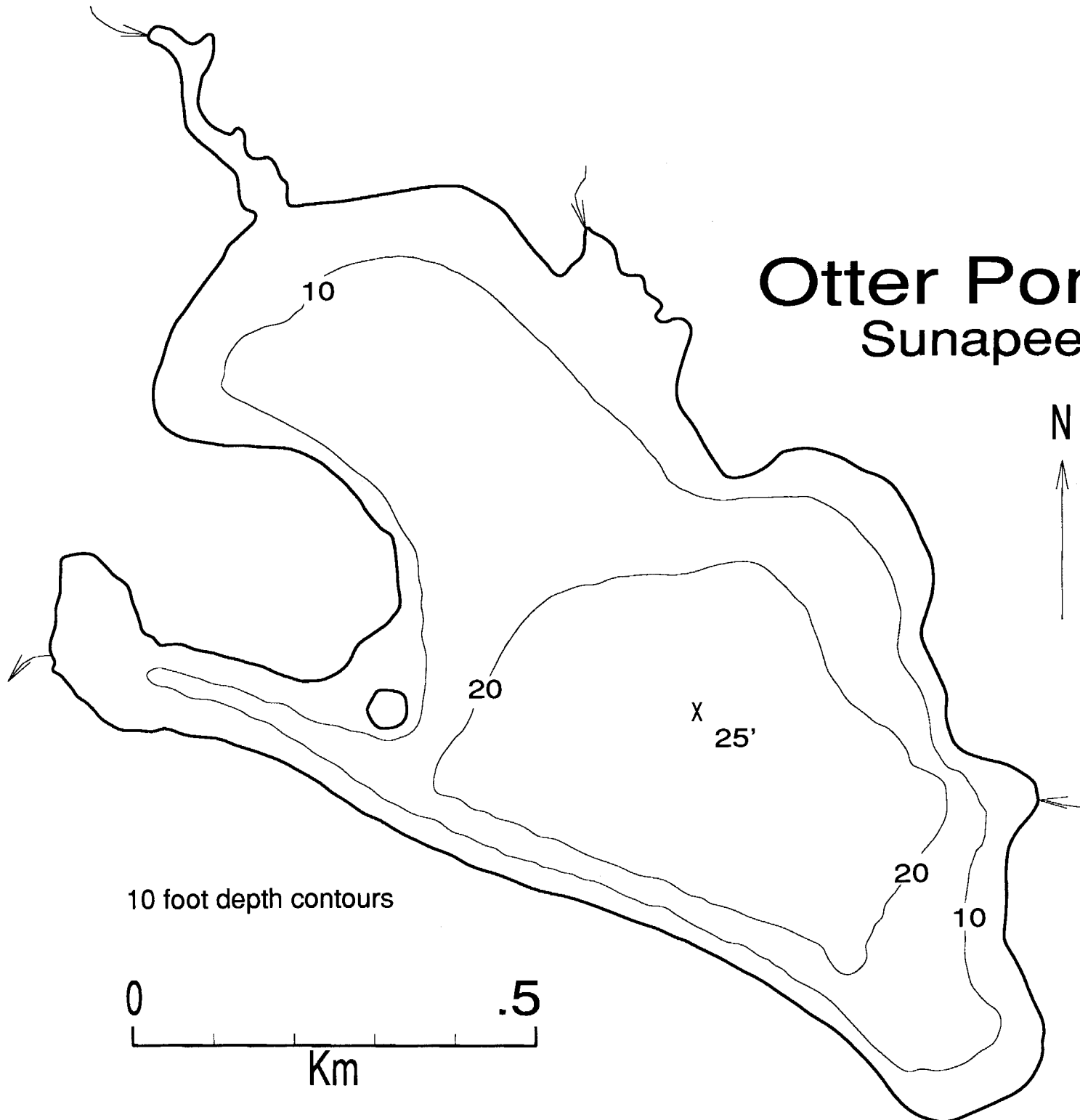
10 foot depth contours

0

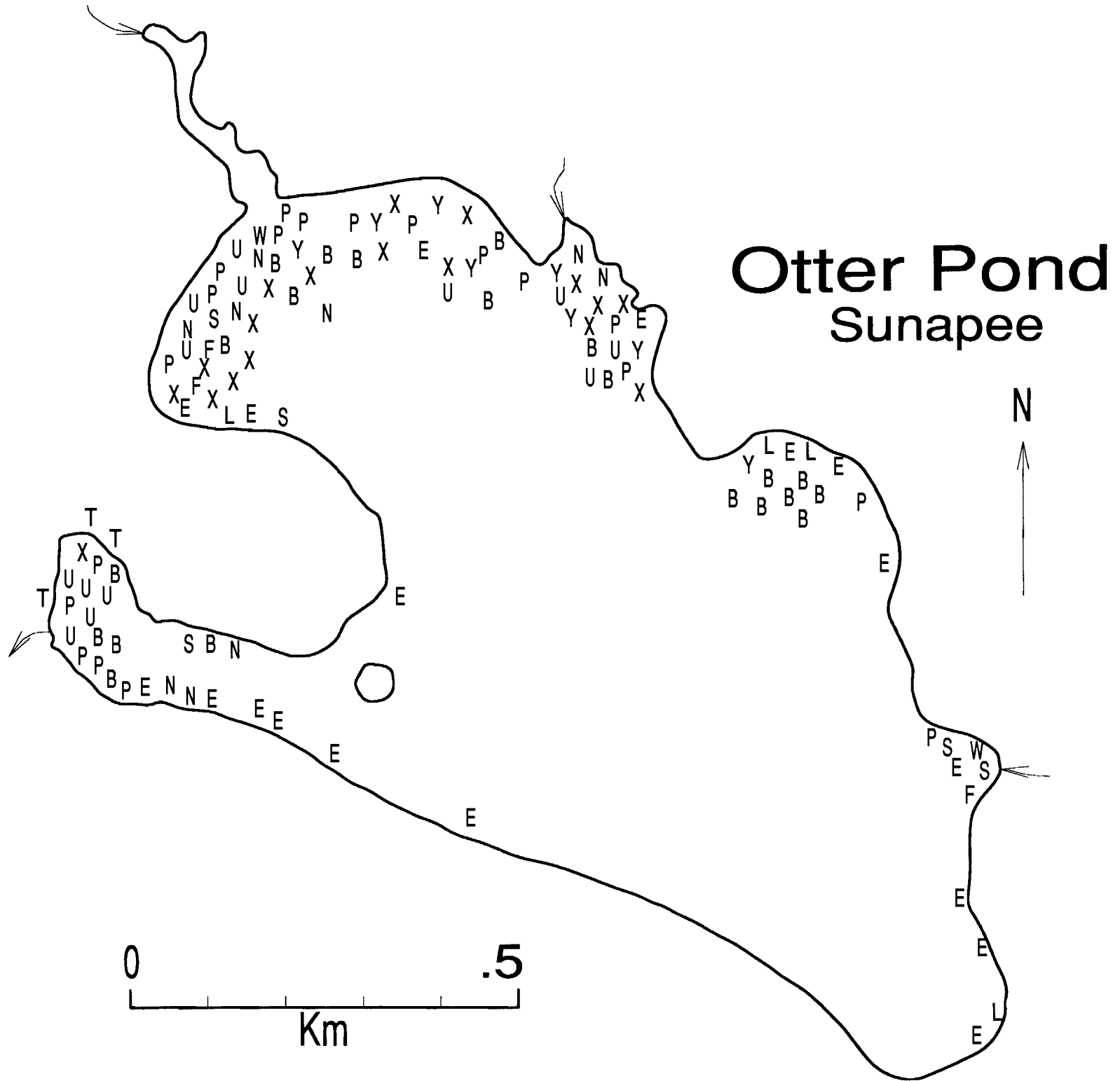
.5

Km

111-208



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